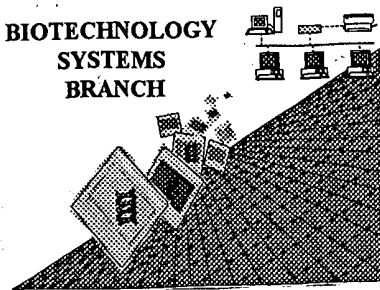


0590
1220

RAW SEQUENCE LISTING ERROR REPORT

BIOTECHNOLOGY
SYSTEMS
BRANCH



The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/7/8,355
Source: OLP
Date Processed by STIC: 12/17/2001

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.

PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:

- 1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,
- 2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY

FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: patin21help@uspto.gov or phone 703-306-4119 (R. Wax)

PATENTIN 3.0 e-mail help: patin3help@uspto.gov or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER
VERSION 3.1 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND
TRADEMARK OFFICE WEBSITE. SEE BELOW FOR ADDRESS:

<http://www.uspto.gov/web/offices/pac/checker>

Applicants submitting genetic sequence information electronically on diskette or CD-Rom should be aware that there is a possibility that the disk/CD-Rom may have been affected by the treatment given to all mail coming via the Brentwood Mail Facility.

Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom, including:

1. EFS-Bio (<http://www.uspto.gov/ebc/efs/downloads/documents.htm>), EFS Submission User Manual - ePAVE)

2. U.S. Patent and Trademark Office, Box Sequence, P.O. Box 2327, Arlington, VA 22202

3. Hand Carry directly to:

U.S. Patent and Trademark Office, Technology Center 1600, Reception Area, 7th Floor, Examiner Name,
1911 South Clark Street, Crystal Mall One, Sequence Information, Arlington, VA 22202

Or

U.S. Patent and Trademark Office, 2011 South Clark Place, Customer Window, Box Sequence, Crystal Plaza Two,
Lobby, Room 1B03, Arlington, Virginia 22202

4. Federal Express Delivery, 2011 South Clark Street, Crystal Plaza 2, Room 1B03-Mailroom, Box Sequence,
Arlington, VA 22202

ERROR DETECTED**SUGGESTED CORRECTION**SERIAL NUMBER: 09/718,355

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTO SOFTWARE

- 1 Wrapped Nucleics
 Wrapped Aminos The number/text at the end of each line "wrapped" down to the next line. This may occur if your file was retrieved in a word processor after creating it. Please adjust your right margin to .3; this will prevent "wrapping."
- 2 Invalid Line Length The rules require that a line not exceed 72 characters in length. This includes white spaces.
- 3 Misaligned Amino
 Numbering The numbering under each 5th amino acid is misaligned. Do not use tab codes between numbers; use space characters, instead.
- 4 Non-ASCII The submitted file was not saved in ASCII(DOS) text, as required by the Sequence Rules. Please ensure your subsequent submission is saved in ASCII text.
- 5 Variable Length Sequence(s) contain n's or Xaa's representing more than one residue. Per Sequence Rules, each n or Xaa can only represent a single residue. Please present the maximum number of each residue having variable length and indicate in the <220>-<223> section that some may be missing.
- 6 PatentIn 2.0
 "bug" A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequences(s) . Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequences. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies to the mandatory <220>-<223> sections for Artificial or Unknown sequences.
- 7 Skipped Sequences
 (OLD RULES) Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence:
 (2) INFORMATION FOR SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
 (i) SEQUENCE CHARACTERISTICS: (Do not insert any subheadings under this heading) ..
 (xi) SEQUENCE DESCRIPTION:SEQ ID NO:X: (insert SEQ ID NO where "X" is shown)
 This sequence is intentionally skipped

 Please also adjust the "(ii) NUMBER OF SEQUENCES:" response to include the skipped sequences.
- 8 Skipped Sequences
 (NEW RULES) Sequence(s) missing. If intentional, please insert the following lines for each skipped sequence.
 <210> sequence id number
 <400> sequence id number
 000
- 9 Use of n's or Xaa's
 (NEW RULES) Use of n's and/or Xaa's have been detected in the Sequence Listing.
 Per 1.823 of Sequence Rules, use of <220>-<223> is MANDATORY if n's or Xaa's are present.
 In <220> to <223> section, please explain location of n or Xaa; and which residue n or Xaa represents.
- 10 Invalid <213>
 Response Per 1.823 of Sequence Rules, the only valid <213> responses are: Unknown, Artificial Sequence, or scientific name (Genus/species). <220>-<223> section is required when <213> response is Unknown or is Artificial Sequence
- 11 Use of <220> Sequence(s) missing the <220> "Feature" and associated numeric identifiers and responses.
 Use of <220> to <223> is MANDATORY if <213> "Organism" response is "Artificial Sequence" or "Unknown." Please explain source of genetic material in <220> to <223> section.
 (See "Federal Register," 06/01/1998, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of Sequence Rules)
- 12 PatentIn 2.0
 "bug" Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing). Instead, please use "File Manager" or any other manual means to copy file to floppy disk.
- 13 Misuse of n! n can only be used to represent a single nucleotide in a nucleic acid sequence. N is not used to represent any value not specifically a nucleotide.

OIKE

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/718,355

DATE: 12/17/2001
TIME: 16:02:43

Input Set : A:\ES.txt
Output Set: C:\CRF31113\REFHOLD\I718355.raw

pp 1-4, 9, 14-16

3 <110> APPLICANT: McGill University
4 Rouleau, Guy A.
5 Lafreniere, Ronald G. *do not use accent marks; they cause errors in processing*
6 Cossette, Patrick
7 Ragsdale, David
9 <120> TITLE OF INVENTION: LOCI FOR IDIOPATHIC GENERALIZED EPILEPSY, MUTATIONS
10 THEREOF AND METHOD USING SAME TO ASSESS, DIAGNOSE,
11 PROGNOSE OR OR TREAT EPILEPSY *delete duplicate*
13 <130> FILE REFERENCE: GOUD:023
C--> 15 <140> CURRENT APPLICATION NUMBER: US/09/718,355
C--> 15 <141> CURRENT FILING DATE: 2001-12-17
15 <150> PRIOR APPLICATION NUMBER: 09/167,623
16 <151> PRIOR FILING DATE: 2000-11-24
W--> 18 <140> CURRENT APPLICATION NUMBER: PCT/CA00/01404
C--> 19 <141> CURRENT FILING DATE: 2000-11-24
W--> 21 <140> CURRENT APPLICATION NUMBER: <140? 60/167,623
C--> 22 <141> CURRENT FILING DATE: 1999-11-26
24 <160> NUMBER OF SEQ ID NOS: 408
26 <170> SOFTWARE: PatentIn Ver. 2.1

*Does Not Comply
Corrected Diskette Needed*

*see
p.15*

ERRORED SEQUENCES

709 <210> SEQ ID NO: 4
710 <211> LENGTH: 1246
711 <212> TYPE: DNA
712 <213> ORGANISM: Homo sapiens
714 <400> SEQUENCE: 4
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E--> 717 ngnsartrvr aktsvgktvg asvkksdvmv vcsvagmgmr nkctwnashs kntvnyngtn 180
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E--> 720 rkkrkksaggk ddkssdsrrk grsgnrtykr ysshssrgss rrrsrtssrg rakdvgsnda 360
E--> 721 ddhstnsrr dsvrhrgrn snstsrssrm avangkmhst vdcngvsvvg gsvtsvgvdk 420
E--> 722 atddngtttt mrkrssshv smdsrrams astntvsrkc cwyksnwds ywkvkhvvnv 480
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E--> 724 vkakswtnmk gnsvgagntv avavvgmgs ykdcvckasd crwhmndhsv rvcgwtmwdc 600
E--> 725 mvagamctvm mvvmgnyvna sssadnaatd ddnmnavdr mhkgvayvkr kysrkkdkdd 660
E--> 726 nnkkdscmsn htagkddykd vngttsgggtg ssvkydsdym snnstvtvav gsdnntdsss 720
E--> 727 dskknsssss gstdvgavvv tactgcvrkc cnvgrgkwnn rrtcrvhnwt vmssgaadyd 780
E--> 728 rktktmyadk vtymkwvayg ytytnawcwg vdvsvstana gysgaksrtr arrasrgmr 840
E--> 729 vvnagasmnv vcwsmgvnag kyhcntttgd rddvnnhtdc krntarwknv kvndnvvgys 900
E--> 730 vatkgwmdmy aavdsrnvky symyyvgstn gvdnnkkkgg dmtkkyynam kkgskkkrgn 960
E--> 731 kgmvdvtrvd smcnmvtmmv tddsyttsr nvvtgcvsr hytgwndvv vsvgmakyvs 1020
E--> 732 trvrargrrk gakgrtamms angvmyagms nayvkrvgdd mntgsmctt sagwdgansk 1080
E--> 733 dcdnkvnsgs vkgdcgnsvg vsysvvvnmv avnsvatsas ddmyvwkdda tmksaaannk 1140

see item 9 on Error Summary Sheet

*same
error
throughout*

*see
p.2*

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/718,355

DATE: 12/17/2001
TIME: 16:02:43

Input Set : A:\ES.txt

Output Set: C:\CRF31113\REFHOLD\I718355.raw

E--> 734 amdmvsgdrh cdatkrvgsg mdarmrmasn skvsytttkr kvsavrayrr hkrtvkasty 1200
E--> 735 nkknkkggank dmdrnnstkt dtmstaacsy drvtkvkhgk dkakgk 1246 *item 9*

1073 <210> SEQ ID NO: 23
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1075 <212> TYPE: DNA
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1080 ccccttattc aatctctctt tttctctaaa aatatctcta cctcaagaag aataaaaaac 120
1081 aaattcatag taataatcct tcttggcagg caacttatta ccaaaattaa ggactttact 180
1082 ttctatgtcc atctcaacta cagaaactga atgaaagcag tagctcatca gaaggtagca 240
1083 ctgtggacat cggcgacact gtagaagaac agcccgtagt ggaacctgaa gaaactcttg 300
1084 aacccgaagc ttgtttcact gaaggtaaag aaaagaatcc taatgttaat ctttcatttg 360
E--> 1085 gagtgcagct tatttagctg ttggtcagct aanataaatc acatataata aaatngcact 420
E--> 1086 ttgtaataga tataattcaa tcacctctaa tatnttgaca gacaaaaaaa cttaaagtct 480 *item 9*
E--> 1087 agtgtcatgc tttgattata tctgcccaat atntgg 516

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1180 <212> TYPE: DNA
1181 <213> ORGANISM: Homo sapiens
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1185 gcaccagtga cgatttccag cactaaaatg tatggtaata ttttacaaaa tattcccctt 120
1186 tggtaggtgg aactccagcc taagtatgaa gaaagtctgt acatgtatct ttactttggt 180
1187 attttcatca tctttgggtc cttcttcacc ttgaacctgt ttattgggtg catcatagat 240
1188 aatttcaacc agcagaaaaa gaagataagt atttctaata tttctctccc cactgagata 300
1189 gaaaaattat tccttggagt gttttctctg ccaaatgagt acttgaattt agaacaaatg 360
1190 ggagtatata ttataactg 379

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2443 caggtatacc tttacaggaa tttatacttt tgaatcactt attaaaatac ttgcaagggg 120
2444 cttttgttta gaagatttca catttttacg ggatccatgg aattggttg atttcacagt 180
2445 cattactttt gcgtaagtat cttaatacat tttctatcct ggaagagtaa atcactggtg 240
E--> 2446 ggagcctata ctatattttc cttgggtggc tgccttgaca gaccaagcat ttntcttagt 300 *item 9*
2447 aatcatagtt ttcttccaat caaattatcc agtttggaga aattaggaac tatcatagta 360
2448 aattacatgg 370

2451 <210> SEQ ID NO: 42
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2458 gccattttcc tcttaattgg gaaagctgat ggcgacactc atgaaattaa aaaggtcttg 120
E--> 2459 atgaaagacc aangaagacg tagatttccc taaattctga ataactctga ttttaattcta 180 *item 9*
2460 caggtatgta acagaatttg taaacctagg caatgtttca gctcttcgaa ctttcagagt 240

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/718,355

DATE: 12/17/2001
TIME: 16:02:43

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Output Set: C:\CRF31113\REFHOLD\I718355.raw

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2461 cttgagagct ttgaaaacta tttctgtaat tccaggtaag aagaaaatgg tataagggtgg 300
2462 taggcccctt atatctccaa ctgtttcttg tgttctgtca ttgtgtttgt gtgtgaaccc 360
2463 cctattacag 370
2481 <210> SEQ ID NO: 44
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2488 caagttctgc ttccattcat ttccaccagc tagtaggctt ttcataaaaa tggtattcaa 120
2489 tcacaaacat taaactaata ttgttggcat tctgcatgac atttttattt tccaggccaa 180
E--> 2490 gctcatgata tttttgccgg taaaatagct gttgagtagt atatttaant tcccccttct 240
2491 gattttgttt gtaggcctga agaccattgt gggggccctg atccagtcag tgaagaagct 300
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2494 tgaaataaat atcacttcct tctttaacaa ttcatggat gggaatggta ctactttcaa 480
2495 taggacagtg agcatattta actgggatga atatatagag gataaaagta agatatactc 540
2496 tataaaccat taagttgttt agttctctaa atattaaata ttatatataa tggaaattat 600
2497 ctcaatttag atgtgaatca agtgacttag actaatttaa gatgatttaa tacatataaa 660
2498 agagatatca aaggatacct tattctattt ttsttatctg tccattgata tagtaaaagt 720
2499 tctcatttga aaatgtgttg tcttatactc atgttgaaag taatttcata ttatgccata 780
2500 ttaaaaaagg tttatttggg agacattaat cagggttttc agtcatttta ataaataagt 840
2501 cagtagtttg aactattcmg cgtattccac tgaaatgtcg ttaagaagac tgaggggaaa 900
2502 taatttggcc ctatttgggt gatgcaacat atgtattgag tacatatgct atatctgaaa 960
2503 ctagagaaaac catttatcaa gatgaaataa gaatttgtgt gtcctcaga aggttaagta 1020
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2558 <211> LENGTH: 711
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2564 ctgtgttcta aaacacagaa taaaatggag aattgttttt caagattatc ttcatgatat 120
E--> 2565 tgaagctcaa ttaagcagta acatgataat tattttttta gatnatatgc aacttcccac 180
2566 atactttgcg cccttctagg cggcagctgc agccgcatct gctgaatcaa gagacttcag 240
2567 tgggtgctggt gggataggag ttttttcaga gagttcttca gtagcatcta agttgagctc 300
2568 caaaagtga aaagagctga aaaacagaaag aaagaaaaag aaacagaaag aacagtctgg 360
2569 agaagaagag aaaaatgaca gagtccataa atcggaatct gaagacagca taagaagaaa 420
2570 aggtttccgt ttttcttggg aaggaagtag gctgacatat gaaaagagat tttcttctcc 480
2571 acaccaggta aaaatattaa attacatgaa ttgtgttctc ataaattttt taaaagaata 540
2572 tgccagaatt taatggagag aaaaccgcct tccacctgga tggcacaatg ctttcagagt 600
2573 agtgatgatt atcaagtgtt ttggctatca cttcagagaa tttgtgagtt ttgcaacttt 660
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2699 <210> SEQ ID NO: 55
2700 <211> LENGTH: 615
2701 <212> TYPE: DNA
2702 <213> ORGANISM: Homo sapiens
2704 <400> SEQUENCE: 55
2705 atctctatac taggctcaaa cagaagttat ttccgttgtt agcaccatat ttttaaaaga 60

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RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/718,355

DATE: 12/17/2001
TIME: 16:02:43

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Output Set: C:\CRF31113\REFHOLD\I718355.raw

E--> 2706 aaaaaaata ctatggtgtt gtatctaata tttgtgacccc tgacctttac caaagcggat 120
2707 tggcattatg tttaagttct taattacaga tcaagaaaaa tgcatacaga agatgggggg 180
2708 gggcacacct aattaatttt tatatttaga tttaaagaaa taattaaatg tgtttttttg 240
2709 tgggattgat tttcagaagc taaatgcaac tagttcatct gaaggcagca cggttgatat 300
2710 tggagctccc gccgagggag aacagcctga ggttgaacct gaggaatccc ttgaacctga 360
E--> 2711 agcctgtttt acagaagnnn nnnnnnaagc aaaacaataa catatgtggt cttgagtatc 420
2712 ctcttttcta cccatttttt cctattttatt taaatgtctg tttatttgtc taccatctag 480
2713 ttcattctatc tatctgtatc tatctatcta tctatctatc tagtaatcat ctataacctat 540
2714 ccaacaactg tacattttatt tgtttttttt ttttgcattt gctgtttgaa aaaaaatgca 600
2715 acgtttttaa ggcaa 615
3244 <210> SEQ ID NO: 67
3245 <211> LENGTH: 1951
3246 <212> TYPE: PRT
3247 <213> ORGANISM: Homo sapiens
3249 <400> SEQUENCE: 67
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3251 1 5 10 15
3253 Phe Thr Arg Glu Ser Leu Ala Ala Ile Glu Lys Arg Ala Ala Glu Glu
3254 20 25 30
3256 Lys Ala Lys Lys Pro Lys Lys Glu Gln Asp Asn Asp Asp Glu Asn Lys
3257 35 40 45
3259 Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Asn Leu Pro Phe Ile
3260 50 55 60
3262 Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Glu Pro Leu Glu Asp Leu
3263 65 70 75 80
3265 Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Met Asn Lys Gly
3266 85 90 95
3268 Lys Ala Ile Ser Arg Phe Ser Ala Thr Ser Ala Leu Tyr Ile Leu Thr
3269 100 105 110
E--> 3271 Pro Leu Asn Pro Val Arg Lys Ile Ala Xaa Lys Ile Leu Val His Ser
3272 115 120 125
3274 Leu Phe Ser Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val Phe
3275 130 135 140
3277 Met Thr Leu Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr Thr
3278 145 150 155 160
3280 Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Leu Ala Arg
3281 165 170 175
3283 Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn Trp
3284 180 185 190
3286 Leu Asp Phe Ser Val Ile Val Met Ala Tyr Val Thr Glu Phe Val Asp
3287 195 200 205
3289 Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala Leu
3290 210 215 220
3292 Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala Leu
3293 225 230 235 240
3295 Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val Phe
3296 245 250 255
3298 Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly Asn
3299 260 265 270

RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/718,355

DATE: 12/17/2001
 TIME: 16:02:43

Input Set : A:\ES.txt
 Output Set: C:\CRF31113\REFHOLD\I718355.raw

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3301 Leu Arg Asn Lys Cys Leu Gln Trp Pro Pro Ser Asp Ser Ala Phe Glu
3302          275          280          285
3304 Thr Asn Thr Thr Ser Tyr Phe Asn Gly Thr Met Asp Ser Asn Gly Thr
3305          290          295          300
3307 Phe Val Asn Val Thr Met Ser Thr Phe Asn Trp Lys Asp Tyr Ile Gly
3308 305          310          315          320
3310 Asp Asp Ser His Phe Tyr Val Leu Asp Gly Gln Lys Asp Pro Leu Leu
3311          325          330          335
3313 Cys Gly Asn Gly Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Ile Cys
3314          340          345          350
3316 Val Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp Thr
3317          355          360          365
3319 Phe Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp Tyr
3320          370          375          380
3322 Trp Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr Tyr
3323 385          390          395          400
3325 Met Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu Val
3326          405          410          415
3328 Asn Leu Ile Leu Ala Val Val Ala Met Ala Tyr Glu Gly Gln Asn Gln
3329          420          425          430
3331 Ala Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln Met
3332          435          440          445
3334 Leu Glu Gln Leu Lys Lys Gln Gln Glu Glu Ala Gln Ala Val Ala Ala
3335          450          455          460
3337 Ala Ser Ala Ala Ser Arg Asp Phe Ser Gly Ile Gly Gly Leu Gly Glu
3338 465          470          475          480
3340 Leu Leu Glu Ser Ser Ser Glu Ala Ser Lys Leu Ser Ser Lys Ser Ala
3341          485          490          495
3343 Lys Glu Trp Arg Asn Arg Arg Lys Lys Arg Arg Gln Arg Glu His Leu
3344          500          505          510
3346 Glu Gly Asn Asn Lys Gly Glu Arg Asp Ser Phe Pro Lys Ser Glu Ser
3347          515          520          525
3349 Glu Asp Ser Val Lys Arg Ser Ser Phe Leu Phe Ser Met Asp Gly Asn
3350          530          535          540
3352 Arg Leu Thr Ser Asp Lys Lys Phe Cys Ser Pro His Gln Ser Leu Leu
3353 545          550          555          560
3355 Ser Ile Arg Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Lys Thr Ser
3356          565          570          575
3358 Ile Phe Ser Phe Arg Gly Arg Ala Lys Asp Val Gly Ser Glu Asn Asp
3359          580          585          590
3361 Phe Ala Asp Asp Glu His Ser Thr Phe Glu Asp Ser Glu Ser Arg Arg
3362          595          600          605
3364 Asp Ser Leu Phe Val Pro His Arg His Gly Glu Arg Arg Asn Ser Asn
3365          610          615          620
3367 Gly Thr Thr Thr Glu Thr Glu Val Arg Lys Arg Arg Leu Ser Ser Tyr
3368 625          630          635          640
3370 Gln Ile Ser Met Glu Met Leu Glu Asp Ser Ser Gly Arg Gln Arg Ala
3371          645          650          655
3373 Val Ser Ile Ala Ser Ile Leu Thr Asn Thr Met Glu Glu Leu Glu Glu

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RAW SEQUENCE LISTING
 PATENT APPLICATION: US/09/718,355

DATE: 12/17/2001
 TIME: 16:02:43

Input Set : A:\ES.txt
 Output Set: C:\CRF31113\REFHOLD\I718355.raw

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3374          660          665          670
3376 Ser Arg Gln Lys Cys Pro Pro Cys Trp Tyr Arg Phe Ala Asn Val Phe
3377          675          680          685
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3380          690          695          700
3382 Asn Leu Ile Val Met Asp Pro Phe Val Asp Leu Ala Ile Thr Ile Cys
3383 705          710          715          720
3385 Ile Val Leu Asn Thr Leu Phe Met Ala Met Glu His Tyr Pro Met Thr
3386          725          730          735
3388 Glu Gln Phe Ser Ser Val Leu Thr Val Gly Asn Leu Val Phe Thr Gly
3389          740          745          750
3391 Ile Phe Thr Ala Glu Met Val Leu Lys Ile Ile Ala Met Asp Pro Tyr
3392          755          760          765
3394 Tyr Tyr Phe Gln Glu Gly Trp Asn Ile Phe Asp Gly Ile Ile Val Ser
3395          770          775          780
3397 Leu Ser Leu Met Glu Leu Gly Leu Ser Asn Val Glu Gly Leu Ser Val
3398 785          790          795          800
3400 Leu Arg Ser Phe Arg Leu Leu Arg Val Phe Lys Leu Ala Lys Ser Trp
3401          805          810          815
3403 Pro Thr Leu Asn Met Leu Ile Lys Ile Ile Gly Asn Ser Val Gly Ala
3404          820          825          830
3406 Leu Gly Asn Leu Thr Leu Val Leu Ala Ile Ile Val Phe Ile Phe Ala
3407          835          840          845
3409 Val Val Gly Met Gln Leu Phe Gly Lys Ser Tyr Lys Glu Cys Val Cys
3410          850          855          860
3412 Lys Ile Asn Asp Asp Cys Thr Leu Pro Arg Trp His Met Asn Asp Phe
3413 865          870          875          880
3415 Phe His Ser Phe Leu Ile Val Phe Arg Val Leu Cys Gly Glu Trp Ile
3416          885          890          895
3418 Glu Thr Met Trp Asp Cys Met Glu Val Ala Gly Gln Thr Met Cys Leu
3419          900          905          910
3421 Ile Val Phe Met Leu Val Met Val Ile Gly Asn Leu Val Val Leu Asn
3422          915          920          925
3424 Leu Phe Leu Ala Leu Leu Leu Ser Ser Phe Ser Ser Asp Asn Leu Ala
3425          930          935          940
3427 Ala Thr Asp Asp Asp Asn Glu Met Asn Asn Leu Gln Ile Ala Val Gly
3428 945          950          955          960
3430 Arg Met Gln Lys Gly Ile Asp Tyr Val Lys Asn Lys Met Arg Glu Cys
3431          965          970          975
3433 Phe Gln Lys Ala Phe Phe Arg Lys Pro Lys Val Ile Glu Ile His Glu
3434          980          985          990
3436 Gly Asn Lys Ile Asp Ser Cys Met Ser Asn Asn Thr Gly Ile Glu Ile
3437          995          1000          1005
3439 Ser Lys Glu Leu Asn Tyr Leu Arg Asp Gly Asn Gly Thr Thr Ser Gly
3440          1010          1015          1020
3442 Val Gly Thr Gly Ser Ser Val Glu Lys Tyr Val Ile Asp Glu Asn Asp
3443 1025          1030          1035          1040
3445 Tyr Met Ser Phe Ile Asn Asn Pro Ser Leu Thr Val Thr Val Pro Ile
3446          1045          1050          1055

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RAW SEQUENCE LISTING

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DATE: 12/17/2001

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Input Set : A:\ES.txt

Output Set: C:\CRF31113\REFHOLD\I718355.raw

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3448 Ala Val Gly Glu Ser Asp Phe Glu Asn Leu Asn Thr Glu Glu Phe Ser
3449          1060          1065          1070
3451 Ser Glu Ser Glu Leu Glu Glu Ser Lys Glu Lys Leu Asn Ala Thr Ser
3452          1075          1080          1085
3454 Ser Ser Glu Gly Ser Thr Val Asp Val Val Leu Pro Arg Glu Gly Glu
3455          1090          1095          1100
3457 Gln Ala Glu Thr Glu Pro Glu Glu Asp Leu Lys Pro Glu Ala Cys Phe
3458 1105          1110          1115          1120
3460 Thr Glu Gly Cys Ile Lys Lys Phe Pro Phe Cys Gln Val Ser Thr Glu
3461          1125          1130          1135
3463 Glu Gly Lys Gly Lys Ile Trp Trp Asn Leu Arg Lys Thr Cys Tyr Ser
3464          1140          1145          1150
3466 Ile Val Glu His Asn Trp Phe Glu Thr Phe Ile Val Phe Met Ile Leu
3467          1155          1160          1165
3469 Leu Ser Ser Gly Ala Leu Ala Phe Glu Asp Ile Tyr Ile Glu Gln Arg
3470          1170          1175          1180
3472 Lys Thr Ile Lys Thr Met Leu Glu Tyr Ala Asp Lys Val Phe Thr Tyr
3473 1185          1190          1195          1200
3475 Ile Phe Ile Leu Glu Met Leu Leu Lys Trp Val Ala Tyr Gly Phe Gln
3476          1205          1210          1215
3478 Thr Tyr Phe Thr Asn Ala Trp Cys Trp Leu Asp Phe Leu Ile Val Asp
3479          1220          1225          1230
3481 Val Ser Leu Val Ser Leu Val Ala Asn Ala Leu Gly Tyr Ser Glu Leu
3482          1235          1240          1245
3484 Gly Ala Ile Lys Ser Leu Arg Thr Leu Arg Ala Leu Arg Pro Leu Arg
3485          1250          1255          1260
3487 Ala Leu Ser Arg Phe Glu Gly Met Arg Val Val Val Asn Ala Leu Val
3488 1265          1270          1275          1280
3490 Gly Ala Ile Pro Ser Ile Met Asn Val Leu Leu Val Cys Leu Ile Phe
3491          1285          1290          1295
3493 Trp Leu Ile Phe Ser Ile Met Gly Val Asn Leu Phe Ala Gly Lys Phe
3494          1300          1305          1310
3496 Tyr His Cys Val Asn Met Thr Thr Gly Asn Met Phe Asp Ile Ser Asp
3497          1315          1320          1325
3499 Val Asn Asn Leu Ser Asp Cys Gln Ala Leu Gly Lys Gln Ala Arg Trp
3500          1330          1335          1340
3502 Lys Asn Val Lys Val Asn Phe Asp Asn Val Gly Ala Gly Tyr Leu Ala
3503 1345          1350          1355          1360
3505 Leu Leu Gln Val Ala Thr Phe Lys Gly Trp Met Asp Ile Met Tyr Ala
3506          1365          1370          1375
3508 Ala Val Asp Ser Arg Asp Val Lys Leu Gln Pro Val Tyr Glu Glu Asn
3509          1380          1385          1390
3511 Leu Tyr Met Tyr Leu Tyr Phe Val Ile Phe Ile Ile Phe Gly Ser Phe
3512          1395          1400          1405
3514 Phe Thr Leu Asn Leu Phe Ile Gly Val Ile Ile Asp Asn Phe Asn Gln
3515          1410          1415          1420
3517 Gln Lys Lys Lys Phe Gly Gly Gln Asp Ile Phe Met Thr Glu Glu Gln
3518 1425          1430          1435          1440
3520 Lys Lys Tyr Tyr Asn Ala Met Lys Lys Leu Gly Ser Lys Lys Pro Gln

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Input Set : A:\ES.txt

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3521          1445          1450          1455
3523 Lys Pro Ile Pro Arg Pro Ala Asn Lys Phe Gln Gly Met Val Phe Asp
3524          1460          1465          1470
3526 Phe Val Thr Arg Gln Val Phe Asp Ile Ser Ile Met Ile Leu Ile Cys
3527          1475          1480          1485
3529 Leu Asn Met Val Thr Met Met Val Glu Thr Asp Asp Gln Gly Lys Tyr
3530          1490          1495          1500
3532 Met Thr Leu Val Leu Ser Arg Ile Asn Leu Val Phe Ile Val Leu Phe
3533 1505          1510          1515          1520
3535 Thr Gly Glu Phe Val Leu Lys Leu Val Ser Leu Arg His Tyr Tyr Phe
3536          1525          1530          1535
3538 Thr Ile Gly Trp Asn Ile Phe Asp Phe Val Val Val Ile Leu Ser Ile
3539          1540          1545          1550
3541 Val Gly Met Phe Leu Ala Glu Met Ile Glu Lys Tyr Phe Val Ser Pro
3542          1555          1560          1565
3544 Thr Leu Phe Arg Val Ile Arg Leu Ala Arg Ile Gly Arg Ile Leu Arg
3545          1570          1575          1580
3547 Leu Ile Lys Gly Ala Lys Gly Ile Arg Thr Leu Leu Phe Ala Leu Met
3548 1585          1590          1595          1600
3550 Met Ser Leu Pro Ala Leu Phe Asn Ile Gly Leu Leu Leu Phe Leu Val
3551          1605          1610          1615
3553 Met Phe Ile Tyr Ala Ile Phe Gly Met Ser Asn Phe Ala Tyr Val Lys
3554          1620          1625          1630
3556 Lys Glu Ala Gly Ile Asp Asp Met Phe Asn Phe Glu Thr Phe Gly Asn
3557          1635          1640          1645
3559 Ser Met Ile Cys Leu Phe Gln Ile Thr Thr Ser Ala Gly Trp Asp Gly
3560          1650          1655          1660
3562 Leu Leu Ala Pro Ile Leu Asn Ser Ala Pro Pro Asp Cys Asp Pro Asp
3563 1665          1670          1675          1680
3565 Thr Ile His Pro Gly Ser Ser Val Lys Gly Asp Cys Gly Asn Pro Ser
3566          1685          1690          1695
3568 Val Gly Ile Phe Phe Phe Val Ser Tyr Ile Ile Ile Ser Phe Leu Val
3569          1700          1705          1710
3571 Val Val Asn Ser Tyr Ile Ala Val Ile Leu Glu Asn Phe Ser Val Ala
3572          1715          1720          1725
3574 Thr Glu Glu Ser Ala Glu Pro Leu Ser Glu Asp Asp Phe Glu Met Phe
3575          1730          1735          1740
3577 Tyr Glu Val Trp Glu Lys Phe Asp Pro Asp Ala Thr Gln Phe Ile Glu
3578 1745          1750          1755          1760
3580 Phe Ser Lys Leu Ser Asp Phe Ala Ala Ala Leu Asp Pro Pro Leu Leu
3581          1765          1770          1775
3583 Ile Ala Lys Pro Asn Lys Val Gln Leu Ile Ala Met Asp Leu Pro Met
3584          1780          1785          1790
3586 Val Ser Gly Asp Arg Ile His Cys Leu Asp Ile Leu Phe Ala Phe Thr
3587          1795          1800          1805
3589 Lys Arg Val Leu Gly Glu Ser Gly Glu Met Asp Ala Leu Arg Ile Gln
3590          1810          1815          1820
3592 Met Glu Asp Arg Phe Met Ala Ser Asn Pro Ser Lys Val Ser Tyr Glu
3593 1825          1830          1835          1840

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RAW SEQUENCE LISTING

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Input Set : A:\ES.txt

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3595 Pro Ile Thr Thr Thr Leu Lys Arg Lys Gln Glu Glu Val Ser Ala Ala
3596                               1845                               1850                               1855
3598 Ile Ile Gln Arg Asn Phe Arg Cys Tyr Leu Leu Lys Gln Arg Leu Lys
3599                               1860                               1865                               1870
3601 Asn Ile Ser Ser Asn Tyr Asn Lys Glu Ala Ile Lys Gly Arg Ile Asp
3602                               1875                               1880                               1885
3604 Leu Pro Ile Lys Gln Asp Met Ile Ile Asp Lys Leu Asn Gly Asn Ser
3605                               1890                               1895                               1900
3607 Thr Pro Glu Lys Thr Asp Gly Ser Ser Ser Thr Thr Ser Pro Pro Ser
3608 1905                               1910                               1915                               1920
3610 Tyr Asp Ser Val Thr Lys Pro Asp Lys Glu Lys Phe Glu Lys Asp Lys
3611                               1925                               1930                               1935
3613 Pro Glu Lys Glu Ser Lys Gly Lys Glu Val Arg Glu Asn Gln Lys
3614                               1940                               1945                               1950
3617 <210> SEQ ID NO: 68
3618 <211> LENGTH: 1951
3619 <212> TYPE: PRT
3620 <213> ORGANISM: Homo sapiens
3622 <400> SEQUENCE: 68
3623 Met Ala Gln Ala Leu Leu Val Pro Pro Gly Pro Glu Ser Phe Arg Leu
3624   1                               5                               10                               15
3626 Phe Thr Arg Glu Ser Leu Ala Ala Ile Glu Lys Arg Ala Ala Glu Glu
3627                               20                               25                               30
3629 Lys Ala Lys Lys Pro Lys Lys Glu Gln Asp Asn Asp Asp Glu Asn Lys
3630                               35                               40                               45
3632 Pro Lys Pro Asn Ser Asp Leu Glu Ala Gly Lys Asn Leu Pro Phe Ile
3633   50                               55                               60
3635 Tyr Gly Asp Ile Pro Pro Glu Met Val Ser Glu Pro Leu Glu Asp Leu
3636 65                               70                               75                               80
3638 Asp Pro Tyr Tyr Ile Asn Lys Lys Thr Phe Ile Val Met Asn Lys Gly
3639                               85                               90                               95
3641 Lys Ala Ile Ser Arg Phe Ser Ala Thr Ser Ala Leu Tyr Ile Leu Thr
3642                               100                              105                              110
E--> 3644 Pro Leu Asn Pro Val Arg Lys Ile Ala Xaa Lys Ile Leu Val His Ser
3645                               115                              120                              125
3647 Leu Phe Ser Met Leu Ile Met Cys Thr Ile Leu Thr Asn Cys Val Phe
3648   130                              135                              140
3650 Met Thr Leu Ser Asn Pro Pro Asp Trp Thr Lys Asn Val Glu Tyr Thr
3651 145                              150                              155                              160
3653 Phe Thr Gly Ile Tyr Thr Phe Glu Ser Leu Ile Lys Ile Leu Ala Arg
3654                               165                              170                              175
3656 Gly Phe Cys Leu Glu Asp Phe Thr Phe Leu Arg Asp Pro Trp Asn Trp
3657                               180                              185                              190
3659 Leu Asp Phe Ser Val Ile Val Met Ala Tyr Val Thr Glu Phe Val Ser
3660   195                              200                              205
3662 Leu Gly Asn Val Ser Ala Leu Arg Thr Phe Arg Val Leu Arg Ala Leu
3663   210                              215                              220
3665 Lys Thr Ile Ser Val Ile Pro Gly Leu Lys Thr Ile Val Gly Ala Leu
3666 225                              230                              235                              240

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RAW SEQUENCE LISTING

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Input Set : A:\ES.txt

Output Set: C:\CRF31113\REFHOLD\I718355.raw

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3668 Ile Gln Ser Val Lys Lys Leu Ser Asp Val Met Ile Leu Thr Val Phe
3669                245                250                255
3671 Cys Leu Ser Val Phe Ala Leu Ile Gly Leu Gln Leu Phe Met Gly Asn
3672                260                265                270
3674 Leu Arg Asn Lys Cys Leu Gln Trp Pro Pro Ser Asp Ser Ala Phe Glu
3675                275                280                285
3677 Thr Asn Thr Thr Ser Tyr Phe Asn Gly Thr Met Asp Ser Asn Gly Thr
3678                290                295                300
3680 Phe Val Asn Val Thr Met Ser Thr Phe Asn Trp Lys Asp Tyr Ile Gly
3681 305                310                315                320
3683 Asp Asp Ser His Phe Tyr Val Leu Asp Gly Gln Lys Asp Pro Leu Leu
3684                325                330                335
3686 Cys Gly Asn Gly Ser Asp Ala Gly Gln Cys Pro Glu Gly Tyr Ile Cys
3687                340                345                350
3689 Val Lys Ala Gly Arg Asn Pro Asn Tyr Gly Tyr Thr Ser Phe Asp Thr
3690                355                360                365
3692 Phe Ser Trp Ala Phe Leu Ser Leu Phe Arg Leu Met Thr Gln Asp Tyr
3693                370                375                380
3695 Trp Glu Asn Leu Tyr Gln Leu Thr Leu Arg Ala Ala Gly Lys Thr Tyr
3696 385                390                395                400
3698 Met Ile Phe Phe Val Leu Val Ile Phe Leu Gly Ser Phe Tyr Leu Val
3699                405                410                415
3701 Asn Leu Ile Leu Ala Val Val Ala Met Ala Tyr Glu Gly Gln Asn Gln
3702                420                425                430
3704 Ala Thr Leu Glu Glu Ala Glu Gln Lys Glu Ala Glu Phe Gln Gln Met
3705                435                440                445
3707 Leu Glu Gln Leu Lys Lys Gln Gln Glu Glu Ala Gln Ala Val Ala Ala
3708                450                455                460
3710 Ala Ser Ala Ala Ser Arg Asp Phe Ser Gly Ile Gly Gly Leu Gly Glu
3711 465                470                475                480
3713 Leu Leu Glu Ser Ser Ser Glu Ala Ser Lys Leu Ser Ser Lys Ser Ala
3714                485                490                495
3716 Lys Glu Trp Arg Asn Arg Arg Lys Lys Arg Arg Gln Arg Glu His Leu
3717                500                505                510
3719 Glu Gly Asn Asn Lys Gly Glu Arg Asp Ser Phe Pro Lys Ser Glu Ser
3720                515                520                525
3722 Glu Asp Ser Val Lys Arg Ser Ser Phe Leu Phe Ser Met Asp Gly Asn
3723                530                535                540
3725 Arg Leu Thr Ser Asp Lys Lys Phe Cys Ser Pro His Gln Ser Leu Leu
3726 545                550                555                560
3728 Ser Ile Arg Gly Ser Leu Phe Ser Pro Arg Arg Asn Ser Lys Thr Ser
3729                565                570                575
3731 Ile Phe Ser Phe Arg Gly Arg Ala Lys Asp Val Gly Ser Glu Asn Asp
3732                580                585                590
3734 Phe Ala Asp Asp Glu His Ser Thr Phe Glu Asp Ser Glu Ser Arg Arg
3735                595                600                605
3737 Asp Ser Leu Phe Val Pro His Arg His Gly Glu Arg Arg Asn Ser Asn
3738                610                615                620
3740 Gly Thr Thr Thr Glu Thr Glu Val Arg Lys Arg Arg Leu Ser Ser Tyr

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Input Set : A:\ES.txt
 Output Set: C:\CRF31113\REFHOLD\I718355.raw

```

3741 625          630          635          640
3743 Gln Ile Ser Met Glu Met Leu Glu Asp Ser Ser Gly Arg Gln Arg Ala
3744          645          650          655
3746 Val Ser Ile Ala Ser Ile Leu Thr Asn Thr Met Glu Glu Leu Glu Glu
3747          660          665          670
3749 Ser Arg Gln Lys Cys Pro Pro Cys Trp Tyr Arg Phe Ala Asn Val Phe
3750          675          680          685
3752 Leu Ile Trp Asp Cys Cys Asp Ala Trp Leu Lys Val Lys His Leu Val
3753          690          695          700
3755 Asn Leu Ile Val Met Asp Pro Phe Val Asp Leu Ala Ile Thr Ile Cys
3756 705          710          715          720
3758 Ile Val Leu Asn Thr Leu Phe Met Ala Met Glu His Tyr Pro Met Thr
3759          725          730          735
3761 Glu Gln Phe Ser Ser Val Leu Thr Val Gly Asn Leu Val Phe Thr Gly
3762          740          745          750
3764 Ile Phe Thr Ala Glu Met Val Leu Lys Ile Ile Ala Met Asp Pro Tyr
3765          755          760          765
3767 Tyr Tyr Phe Gln Glu Gly Trp Asn Ile Phe Asp Gly Ile Ile Val Ser
3768          770          775          780
3770 Leu Ser Leu Met Glu Leu Gly Leu Ser Asn Val Glu Gly Leu Ser Val
3771 785          790          795          800
3773 Leu Arg Ser Phe Arg Leu Leu Arg Val Phe Lys Leu Ala Lys Ser Trp
3774          805          810          815
3776 Pro Thr Leu Asn Met Leu Ile Lys Ile Ile Gly Asn Ser Val Gly Ala
3777          820          825          830
3779 Leu Gly Asn Leu Thr Leu Val Leu Ala Ile Ile Val Phe Ile Phe Ala
3780          835          840          845
3782 Val Val Gly Met Gln Leu Phe Gly Lys Ser Tyr Lys Glu Cys Val Cys
3783          850          855          860
3785 Lys Ile Asn Asp Asp Cys Thr Leu Pro Arg Trp His Met Asn Asp Phe
3786 865          870          875          880
3788 Phe His Ser Phe Leu Ile Val Phe Arg Val Leu Cys Gly Glu Trp Ile
3789          885          890          895
3791 Glu Thr Met Trp Asp Cys Met Glu Val Ala Gly Gln Thr Met Cys Leu
3792          900          905          910
3794 Ile Val Phe Met Leu Val Met Val Ile Gly Asn Leu Val Val Leu Asn
3795          915          920          925
3797 Leu Phe Leu Ala Leu Leu Leu Ser Ser Phe Ser Ser Asp Asn Leu Ala
3798          930          935          940
3800 Ala Thr Asp Asp Asp Asn Glu Met Asn Asn Leu Gln Ile Ala Val Gly
3801 945          950          955          960
3803 Arg Met Gln Lys Gly Ile Asp Tyr Val Lys Asn Lys Met Arg Glu Cys
3804          965          970          975
3806 Phe Gln Lys Ala Phe Phe Arg Lys Pro Lys Val Ile Glu Ile His Glu
3807          980          985          990
3809 Gly Asn Lys Ile Asp Ser Cys Met Ser Asn Asn Thr Gly Ile Glu Ile
3810          995          1000          1005
3812 Ser Lys Glu Leu Asn Tyr Leu Arg Asp Gly Asn Gly Thr Thr Ser Gly
3813          1010          1015          1020

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RAW SEQUENCE LISTING

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Input Set : A:\ES.txt

Output Set: C:\CRF31113\REFHOLD\I718355.raw

```

3815 Val Gly Thr Gly Ser Ser Val Glu Lys Tyr Val Ile Asp Glu Asn Asp
3816 1025 1030 1035 1040
3818 Tyr Met Ser Phe Ile Asn Asn Pro Ser Leu Thr Val Thr Val Pro Ile
3819 1045 1050 1055
3821 Ala Val Gly Glu Ser Asp Phe Glu Asn Leu Asn Thr Glu Glu Phe Ser
3822 1060 1065 1070
3824 Ser Glu Ser Glu Leu Glu Glu Ser Lys Glu Lys Leu Asn Ala Thr Ser
3825 1075 1080 1085
3827 Ser Ser Glu Gly Ser Thr Val Asp Val Val Leu Pro Arg Glu Gly Glu
3828 1090 1095 1100
3830 Gln Ala Glu Thr Glu Pro Glu Glu Asp Leu Lys Pro Glu Ala Cys Phe
3831 1105 1110 1115 1120
3833 Thr Glu Gly Cys Ile Lys Lys Phe Pro Phe Cys Gln Val Ser Thr Glu
3834 1125 1130 1135
3836 Glu Gly Lys Gly Lys Ile Trp Trp Asn Leu Arg Lys Thr Cys Tyr Ser
3837 1140 1145 1150
3839 Ile Val Glu His Asn Trp Phe Glu Thr Phe Ile Val Phe Met Ile Leu
3840 1155 1160 1165
3842 Leu Ser Ser Gly Ala Leu Ala Phe Glu Asp Ile Tyr Ile Glu Gln Arg
3843 1170 1175 1180
3845 Lys Thr Ile Lys Thr Met Leu Glu Tyr Ala Asp Lys Val Phe Thr Tyr
3846 1185 1190 1195 1200
3848 Ile Phe Ile Leu Glu Met Leu Leu Lys Trp Val Ala Tyr Gly Phe Gln
3849 1205 1210 1215
3851 Thr Tyr Phe Thr Asn Ala Trp Cys Trp Leu Asp Phe Leu Ile Val Asp
3852 1220 1225 1230
3854 Val Ser Leu Val Ser Leu Val Ala Asn Ala Leu Gly Tyr Ser Glu Leu
3855 1235 1240 1245
3857 Gly Ala Ile Lys Ser Leu Arg Thr Leu Arg Ala Leu Arg Pro Leu Arg
3858 1250 1255 1260
3860 Ala Leu Ser Arg Phe Glu Gly Met Arg Val Val Val Asn Ala Leu Val
3861 1265 1270 1275 1280
3863 Gly Ala Ile Pro Ser Ile Met Asn Val Leu Leu Val Cys Leu Ile Phe
3864 1285 1290 1295
3866 Trp Leu Ile Phe Ser Ile Met Gly Val Asn Leu Phe Ala Gly Lys Phe
3867 1300 1305 1310
3869 Tyr His Cys Val Asn Met Thr Thr Gly Asn Met Phe Asp Ile Ser Asp
3870 1315 1320 1325
3872 Val Asn Asn Leu Ser Asp Cys Gln Ala Leu Gly Lys Gln Ala Arg Trp
3873 1330 1335 1340
3875 Lys Asn Val Lys Val Asn Phe Asp Asn Val Gly Ala Gly Tyr Leu Ala
3876 1345 1350 1355 1360
3878 Leu Leu Gln Val Ala Thr Phe Lys Gly Trp Met Asp Ile Met Tyr Ala
3879 1365 1370 1375
3881 Ala Val Asp Ser Arg Asp Val Lys Leu Gln Pro Val Tyr Glu Glu Asn
3882 1380 1385 1390
3884 Leu Tyr Met Tyr Leu Tyr Phe Val Ile Phe Ile Ile Phe Gly Ser Phe
3885 1395 1400 1405
3887 Phe Thr Leu Asn Leu Phe Ile Gly Val Ile Ile Asp Asn Phe Asn Gln

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RAW SEQUENCE LISTING
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DATE: 12/17/2001
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Input Set : A:\ES.txt
 Output Set: C:\CRF31113\REFHOLD\I718355.raw

```

3888      1410      1415      1420
3890 Gln Lys Lys Lys Phe Gly Gly Gln Asp Ile Phe Met Thr Glu Glu Gln
3891 1425      1430      1435      1440
3893 Lys Lys Tyr Tyr Asn Ala Met Lys Lys Leu Gly Ser Lys Lys Pro Gln
3894      1445      1450      1455
3896 Lys Pro Ile Pro Arg Pro Ala Asn Lys Phe Gln Gly Met Val Phe Asp
3897      1460      1465      1470
3899 Phe Val Thr Arg Gln Val Phe Asp Ile Ser Ile Met Ile Leu Ile Cys
3900      1475      1480      1485
3902 Leu Asn Met Val Thr Met Met Val Glu Thr Asp Asp Gln Gly Lys Tyr
3903      1490      1495      1500
3905 Met Thr Leu Val Leu Ser Arg Ile Asn Leu Val Phe Ile Val Leu Phe
3906 1505      1510      1515      1520
3908 Thr Gly Glu Phe Val Leu Lys Leu Val Ser Leu Arg His Tyr Tyr Phe
3909      1525      1530      1535
3911 Thr Ile Gly Trp Asn Ile Phe Asp Phe Val Val Val Ile Leu Ser Ile
3912      1540      1545      1550
3914 Val Gly Met Phe Leu Ala Glu Met Ile Glu Lys Tyr Phe Val Ser Pro
3915      1555      1560      1565
3917 Thr Leu Phe Arg Val Ile Arg Leu Ala Arg Ile Gly Arg Ile Leu Arg
3918      1570      1575      1580
3920 Leu Ile Lys Gly Ala Lys Gly Ile Arg Thr Leu Leu Phe Ala Leu Met
3921 1585      1590      1595      1600
3923 Met Ser Leu Pro Ala Leu Phe Asn Ile Gly Leu Leu Leu Phe Leu Val
3924      1605      1610      1615
3926 Met Phe Ile Tyr Ala Ile Phe Gly Met Ser Asn Phe Ala Tyr Val Lys
3927      1620      1625      1630
3929 Lys Glu Ala Gly Ile Asp Asp Met Phe Asn Phe Glu Thr Phe Gly Asn
3930      1635      1640      1645
3932 Ser Met Ile Cys Leu Phe Gln Ile Thr Thr Ser Ala Gly Trp Asp Gly
3933      1650      1655      1660
3935 Leu Leu Ala Pro Ile Leu Asn Ser Ala Pro Pro Asp Cys Asp Pro Asp
3936 1665      1670      1675      1680
3938 Thr Ile His Pro Gly Ser Ser Val Lys Gly Asp Cys Gly Asn Pro Ser
3939      1685      1690      1695
3941 Val Gly Ile Phe Phe Phe Val Ser Tyr Ile Ile Ile Ser Phe Leu Val
3942      1700      1705      1710
3944 Val Val Asn Ser Tyr Ile Ala Val Ile Leu Glu Asn Phe Ser Val Ala
3945      1715      1720      1725
3947 Thr Glu Glu Ser Ala Glu Pro Leu Ser Glu Asp Asp Phe Glu Met Phe
3948      1730      1735      1740
3950 Tyr Glu Val Trp Glu Lys Phe Asp Pro Asp Ala Thr Gln Phe Ile Glu
3951 1745      1750      1755      1760
3953 Phe Ser Lys Leu Ser Asp Phe Ala Ala Ala Leu Asp Pro Pro Leu Leu
3954      1765      1770      1775
3956 Ile Ala Lys Pro Asn Lys Val Gln Leu Ile Ala Met Asp Leu Pro Met
3957      1780      1785      1790
3959 Val Ser Gly Asp Arg Ile His Cys Leu Asp Ile Leu Phe Ala Phe Thr
3960      1795      1800      1805

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DATE: 12/17/2001
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Input Set : A:\ES.txt
Output Set: C:\CRF31113\REFHOLD\I718355.raw

```

3962 Lys Arg Val Leu Gly Glu Ser Gly Glu Met Asp Ala Leu Arg Ile Gln
3963      1810                      1815                      1820
3965 Met Glu Asp Arg Phe Met Ala Ser Asn Pro Ser Lys Val Ser Tyr Glu
3966 1825                      1830                      1835                      1840
3968 Pro Ile Thr Thr Thr Leu Lys Arg Lys Gln Glu Glu Val Ser Ala Ala
3969                      1845                      1850                      1855
3971 Ile Ile Gln Arg Asn Phe Arg Cys Tyr Leu Leu Lys Gln Arg Leu Lys
3972                      1860                      1865                      1870
3974 Asn Ile Ser Ser Asn Tyr Asn Lys Glu Ala Ile Lys Gly Arg Ile Asp
3975                      1875                      1880                      1885
3977 Leu Pro Ile Lys Gln Asp Met Ile Ile Asp Lys Leu Asn Gly Asn Ser
3978      1890                      1895                      1900
3980 Thr Pro Glu Lys Thr Asp Gly Ser Ser Ser Thr Thr Ser Pro Pro Ser
3981 1905                      1910                      1915                      1920
3983 Tyr Asp Ser Val Thr Lys Pro Asp Lys Glu Lys Phe Glu Lys Asp Lys
3984                      1925                      1930                      1935
3986 Pro Glu Lys Glu Ser Lys Gly Lys Glu Val Arg Glu Asn Gln Lys
3987      1940                      1945                      1950

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4276 <210> SEQ ID NO: 84

4277 <211> LENGTH: 566

4278 <212> TYPE: DNA

4279 <213> ORGANISM: Homo sapiens

4281 <400> SEQUENCE: 84

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Item 9

SEQUENCE LISTING

<110> McGill University
Rouleau, Guy A.
Lafreniere, Ronald G.
Cossette, Patrick
Ragsdale, David

delete accent mark

<120> LOCI FOR IDIOPATHIC GENERALIZED EPILEPSY, MUTATIONS
THEREOF AND METHOD USING SAME TO ASSESS, DIAGNOSE,
PROGNOSE OR OR TREAT EPILEPSY

<130> GOUD:023

<150> 09/167,623

<151> 2000-11-24

<140> PCT/CA00/01404 → <1507

<141> 2000-11-24 → <1517

<140> 60/167,623 → <1507

<141> 1999-11-26 → <1517

please replace <1407 and <1417 with <1507 and <1517
<1407 is for current application number
<1417 is for current filing date

<160> 408

<170> PatentIn Ver. 2.1

<210> 1

<211> 8378

<212> DNA

<213> Homo sapiens

<400> 1

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| tgtgttctgc | cccagtgaga | ctgcagccct | tgtaaatact | ttgacacctt | ttgcaagaag | 120 |
| gaatctgaac | aattgcaact | gaaggcacat | tgttatcatc | tcgtcttttg | gtgatgctgt | 180 |
| tcctcactgc | agatggataa | ttttcctttt | aatcaggaat | ttcatatgca | gaataaatgg | 240 |
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VARIABLE LOCATION SUMMARY
PATENT APPLICATION: US/09/718,355

16
DATE: 12/17/2001
TIME: 16:02:45

Input Set : A:\ES.txt
Output Set: C:\CRF31113\REFHOLD\I718355.raw

Use of n's or Xaa's(NEW RULES):

Use of n's and/or Xaa's have been detected in the Sequence Listing.

Use of <220> to <223> is MANDATORY if n's or Xaa's are present.
in <220> to <223> section, please explain location of n or Xaa, and which
residue n or Xaa represents.

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Seq#:4; Pos. 175,177,180,199,215,216,233,249,257,299,325,343,358,367,380
Seq#:4; Pos. 382,394,404,425,454,466,479,490,501,502,507,523,532,548,552
Seq#:4; Pos. 558,586,616,619,626,633,635,636,661,662,670,682,702,703,714
Seq#:4; Pos. 715,725,752,760,768,805,819,843,849,858,865,875,876,883,889
Seq#:4; Pos. 893,895,917,930,934,935,948,960,974,991,1007,1042,1051,1062
Seq#:4; Pos. 1065,1078,1084,1087,1097,1108,1113,1138,1139,1170,1201,1203
Seq#:4; Pos. 1209,1215,1216
Seq#:23; Pos. 393,415,454,513
Seq#:29; Pos. 43
Seq#:41; Pos. 293
Seq#:42; Pos. 133
Seq#:44; Pos. 229
Seq#:48; Pos. 164
Seq#:55; Pos. 90,378,379,380,381,382,383,384,385,386
Seq#:67; Pos. 122
Seq#:68; Pos. 122
Seq#:84; Pos. 477

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/718,355

DATE: 12/17/2001

TIME: 16:02:45

Input Set : A:\ES.txt

Output Set: C:\CRF31113\REFHOLD\I718355.raw

L:15 M:270 C: Current Application Number differs, Replaced Current Application No
L:15 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:18 M:280 W: Numeric Identifier already exists, <140> found multiple times
L:18 M:281 W: Numeric Fields not Ordered, <140> not ordered!.
L:18 M:270 C: Current Application Number differs, Replaced Current Application Number
L:19 M:281 W: Numeric Fields not Ordered, <141> not ordered!.
L:19 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:21 M:280 W: Numeric Identifier already exists, <140> found multiple times
L:21 M:281 W: Numeric Fields not Ordered, <140> not ordered!.
L:21 M:270 C: Current Application Number differs, Replaced Current Application Number
L:22 M:280 W: Numeric Identifier already exists, <141> found multiple times
L:22 M:281 W: Numeric Fields not Ordered, <141> not ordered!.
L:22 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:715 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:4
L:716 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:4
L:717 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:4
L:718 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:4
L:719 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:4
L:720 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:4
L:721 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:4
L:722 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:4
L:723 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:4
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L:2706 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:55
L:2711 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:55
L:3271 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:67
L:3644 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:68
L:4289 M:340 E: (46) "n" or "Xaa" used: Feature required, for SEQ ID#:84